

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions and listings of claims in the application.

1. (currently amended) A system for mixing water with CO₂ to produce carbonated water at a targeted carbonation level, the system comprising:

a tank containing water and a headspace, the tank having a first end and a second end;

a source of CO₂ in fluid communication with the headspace;

a baffle in the tank between the first end and the second end;

an orifice in the first end of the tank; and

a supply of water coupled to the orifice, the orifice being structured and arranged to direct a stream of water into the tank,

wherein the tank is arranged at an acute angle with respect to a support surface,

and

wherein the baffle is positioned in the tank so as to target a desired carbonation level of the water in the tank.

2. (original) The system of claim 1, further comprising an outlet at the first end of the tank.

3. (original) The system of claim 2, wherein an outlet tube extends from the first end past the baffle, and wherein the baffle includes a cutout region structured and arranged to accommodate the outlet tube.

4. (original) The system of claim 1, further comprising a CO₂ inlet member and a pressure relief member each extending from the second end through the baffle.

5. (original) The system of claim 4, wherein the baffle includes at least one opening configured to receive at least one of the CO₂ inlet member and the pressure relief member.

6. (original) The system of claim 1, further comprising:
a probe housing extending from the second end of the tank toward the baffle;
a liquid level probe in the probe housing, the liquid level probe extending through the baffle and toward the first end.

7. (original) The system of claim 6, wherein the baffle is coupled to the probe housing.

8. (original) The system of claim 6, wherein the baffle includes an opening structured and arranged to accommodate the liquid level probe.

9. (original) The system of claim 8, wherein the probe housing extends through the opening in the baffle and toward the first end of the tank.

10. (original) The system of claim 1, wherein the baffle is structured and arranged so as to atomize the stream of water when the level of the carbonated water reaches a predetermined low level.

11. (original) The system of claim 1, wherein the baffle is structured and arranged so as to agitate carbonated water flowing by the baffle when the level of the carbonated water reaches a predetermined low level.

12. (original) The system of claim 1, wherein the orifice is configured to direct the stream of water such that CO₂ bubbles are entrained to produce the targeted carbonation level of the water.

13. (original) A carbonator for use in a beverage dispenser, comprising:
a tank having a first end and a second end, the tank being configured to contain water;

an inlet in the second end of the tank configured to receive a supply of CO₂;

a baffle in the tank between the first end and the second end; and

an orifice in the first end of the tank, the orifice being structured and arranged to direct a stream of water into the tank,

wherein the baffle is positioned in the tank so as to target a desired carbonation level of the water in the tank.

14. (original) The carbonator of claim 13, further comprising an outlet at the first end of the tank.

15. (original) The carbonator of claim 14, wherein an outlet tube extends from the first end past the baffle, and wherein the baffle includes a cutout region structured and arranged to accommodate the outlet tube.

16. (original) The carbonator of claim 13, further comprising a CO₂ inlet member and a pressure relief member each extending from the second end through the baffle.

17. (original) The carbonator of claim 16, wherein the baffle includes at least one opening configured to receive at least one of the CO₂ inlet member and the pressure relief member.

18. (original) The carbonator of claim 13, further comprising:
a probe housing extending from the second end of the tank toward the baffle;
a liquid level probe in the probe housing, the liquid level probe extending through the baffle and toward the first end.

19. (original) The carbonator of claim 18, wherein the baffle is coupled to the probe housing.

20. (original) The carbonator of claim 18, wherein the baffle includes an opening structured and arranged to accommodate the liquid level probe.

21. (original) The carbonator of claim 20, wherein the probe housing extends through the opening in the baffle and toward the first end of the tank.

22. (original) The carbonator of claim 13, wherein the baffle is structured and arranged so as to atomize the stream of water when the level of the carbonated water reaches a predetermined low level.

23. (original) The carbonator of claim 13, wherein the baffle is structured and arranged so as to agitate carbonated water flowing by the baffle when the level of the carbonated water reaches a predetermined low level.

24. (original) The carbonator of claim 13, wherein the orifice is configured to direct the stream of water such that CO₂ bubbles are entrained to produce a desired carbonation of the water.

25-30. (canceled)

31. (currently amended) A carbonator for use in a beverage dispenser, comprising:

a tank having at least one wall, the tank being configured to contain water and a
headspace;

an inlet in the at least one wall of the tank configured to receive a supply of CO₂,
the inlet opening into the headspace;

a baffle in the tank spaced from the inlet;

an orifice in the at least one wall of the tank, the orifice being structured and
arranged to direct a stream of water into the tank,

wherein the baffle is positioned in the tank so as to target a desired carbonation
level of the water in the tank.

32. (new) The system of claim 1, wherein said acute angle is approximately 10
degrees.